

**Abstract**

The invention includes a method and system for wirelessly transmitting data between a base transceiver station and a subscriber unit. The method comprises generating control signals to configure a base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol, transmitting in response to the control signals and in a spatially separate fashion, the selected data streams on the assigned channel of the multiple access protocol and utilizing co-located electric dipole and magnetic dipole antennae at the subscriber unit to receive the selected data streams. The system comprises means for generating control signals to configure a base transceiver station to transmit selected data streams to a corresponding subscriber unit on an assigned channel of a multiple access protocol, means for transmitting in response to the control signals and in a spatially separate fashion, selected data streams on the assigned channel of the multiple access protocol and means for utilizing co-located electric dipole and magnetic dipole antennae at the subscriber unit to receive the selected data streams.